



east tennessee
DISCOVERY CENTER

Program Resource Guide 2007-2008 Preschool—2nd Grade



**SCIENCE
DISCOVERY**

Science Discovery Center

516 N. Beaman Street/P.O. Box 6204
Knoxville, TN 37914

Located in Chilhowee Park near the Zoo
(865) 594-1494

Science Discovery Center General Scheduling Information

Call (865) 594-1494 to schedule Science Discovery programs for a group of 10 or more. Small groups of 10 or less may schedule programs at a cost of \$40.

Location

516 N. Beaman Street (in Chilhowee Park next to Knoxville Zoo)
Knoxville, TN 37914

Hours

Monday-Friday 9:00 a.m.—5:00 p.m.
Saturday 10:00 a.m.—5:00 p.m.

Group Rates for Field Trips

School-age children/adults	\$4
Preschool children	\$3
Knox Co. Public School groups	\$3
Outreach Programs	\$4 + mileage invoice

No charge for teachers and bus drivers accompanying a school group; other adult chaperones admitted free within a ratio, depending on the age of the students.

Gift Shop

Our gift shop sells science-related items including rocks, minerals, star charts, insects, magnets, pencils and more. Prices start at 25 cents.

Barrier-Free Facility

All areas at the Science Discovery Center are handicap accessible. If your group has special needs, please let us know beforehand.

Knox County Science Curriculum Instructional Goals

Every Science Discovery Center program has been specifically developed to reinforce the instructional goals of the Knox County School System. We have included the list of programs and the science goals they meet to assist you in planning your trip. For a full description of these goals, visit our website at www.etsdiscovery.org and click on the science goals link.

Science Discovery Center Planetarium Programs

Don't Duck, Look Up! 30 minutes

Preschool-Kindergarten

Join Dudley the duckling, as he takes his first trip out to the barnyard & learns about the sky along with his animal friends. Experience a thunderstorm & the patterns of the nighttime stars. This program is a wonderful introduction to both the day & night sky and is perfect for the youngest astronomers.

Friendly Stars 30 minutes

Grade 1

Join the sun & stars in exploring the daytime & nighttime sky in this slide presentation in the planetarium. The Starball projector will be used to display the stars on the planetarium dome.

The Sky Tonight 30 minutes

Grades 1-2

Take a look at our nighttime sky during the day! The Starball projector simulates our nighttime sky on the planetarium dome, & students will learn about the constellations we can see in our sky, & how some of the constellations got their names.

Secret of the Cardboard Rocket 45 minutes

Grade 2

Take a trip through the solar system on a cardboard rocket! Join Rocky and Starr as they take flight and learn about each of our planets with the help of a wise Astronomy book that accompanies them on their journey.

Magic School Bus videos 30 minutes

Grades Preschool—2

Join Mrs. Frizzle and her class on a field trip; a wide variety of science-related topics are available to fit your curriculum.

Science Discovery Center In-House Classroom Programs

These programs are available only at the Discovery Center; please see the Outreach section for programs that come to you.

Bats Abound!

Grades K-2

Learn the truth about bats around the world! Age-appropriate activities will leave your students "flying." See bats skins from native Tennessee bats and a bat skeleton. Discover the survival skills bats use to live successfully.

Forces & Motion

Grades K-2

Discover how forces of friction & gravity affect our daily lives. Students will participate in fun activities to figure out what Newton's Three Laws of Motion really mean to us. Your students will love demonstrating these principles by racing cars, hitting homers and wheeling around on a skateboard!

Our Planet & Moon

Grades K-2

Students will learn about the movements of the Earth and Moon as they imitate the movements themselves. They will also explore how these movements affect the Earth, giving us day and night, and the four seasons. They will discuss the physical features of the moon and participate in an exercise to help them understand the moon's phases and its role in creating eclipses.

**Science Discovery Center
In-House Classroom Programs (cont'd)**

What is an Insect?

Grades K-2

Learn about the world of insects in this entertaining, fact-filled hands-on presentation. We will "turn" one student into a butterfly to help identify the physical characteristics that insects share. We will perform an interactive activity to determine insects and non-insects, and will even have the opportunity to *touch* a Giant Madagascar Hissing Cockroach!

Wind, Water & The 4 Seasons

Grades K-2

This program demonstrates how Earth's movements create the four seasons & discusses characteristics of each season. Students will learn how wind is formed and how it can make objects move. They will explore the water cycle and learn the different types of clouds and precipitation. Students experiment with thermometers as they learn about Fahrenheit and Celsius temperature scales.

Light & Color

Grade 2

This program allows students to investigate the properties of light & the color spectrum. Students will experiment to see what kinds of materials light will travel through and how light from different angles can change a shadow. They will also explore mixing colors of light together to create different colors, and discuss how light allows us to see a variety of colors.

Science Discovery Outreach Programs

The following programs are available to come to your school or group

Classroom Outreach Programs

Make It Move

60 minutes

Kindergarten

Kids love sports and this action-packed, sports-themed program will get them interested in science as well! With the instructor as the referee, students will use a variety of sports equipment to learn about gravity, friction, force and Newton's Three Laws of Motion.

Let's Make Sense of Our Bodies

60 minutes

Kindergarten

What does a brain feel like? Is seeing believing? Learn some interesting facts about our bodies. Discover the five senses through games and activities.

What's In the Sky

60 minutes

Kindergarten

Take a trip through our solar system and beyond. Learn about planets, moons, comets, asteroids and meteorites. Compare daytime and nighttime skies. Students will draw their own constellation pattern.

Hide a Butterfly

60 minutes

Kindergarten

Look in your backyard and discover the fascinating animals that live there. This program examines insect body parts, the stages of metamorphosis and insect coloration. Students will make their own butterfly to learn more about camouflage, color and shape.

**Science Discovery Center
Classroom Outreach Programs (cont'd)**

**Bats, Inside & Out
Grade 1**

60 minutes

From helpless embryo to high-flying adult, students will learn about the unique body parts and basic needs bats have as they grow. Everyone will have fun echolocating and "flying" to catch insects while learning how our local bats compare to those around the world.

**Opposites Attract
Grade 1**

60 minutes

How do magnets attract and why do they repel? Are you stronger than a magnet? Is your refrigerator a magnet? Learn about magnetic fields and the properties of magnets as you learn by experimenting with different sizes and shapes of magnets.

**Geology Rocks!
Grade 1**

60 minutes

Students will "dig in" and discover the processes that shape our Earth and form our rocks, minerals and soils. We will examine, test and classify samples by varying characteristics such as color, shape, texture and hardness.

**Solids, Liquids and Gases
Grade 2**

60 minutes

What are atoms? What do they look like? Learn about the periodic table and the three states of matter. Watch experiments that cause matter to change form.

**Dinosaurs: The Unfinished Puzzle
Grade 2**

60 minutes

Students get "down & dirty" in a simulated dig site, make their own trackway, mold fossil imprints and more as they piece together the fascinating puzzle of dinosaurs. This program will have even the most savvy dinosaur experts roaring with approval!

**Ocean Voyage
Grade 2**

60 minutes

Come on an exciting voyage to discover treasures from the deep. Search the oceans with your students as we discuss the abundant life under water. From plankton to whales, view the various fish and mammals seen through the porthole of a submarine. Visit a coral reef to learn about the food chain and what lives at different levels of the ocean.

Lego Outreach Programs

**Lego 1
Grade 2**

90 minutes

Students will build machines using Lego "Technic 11" sets, learning in a very hands-on way about how motion is transferred through belts & pulleys, gears and chains. The program provides a great opportunity for students to enhance their fine motor skills and reinforces the value of working cooperatively. Degree of difficulty increases with grade level.

Starlab Outreach Programs

Starlab is a portable, inflatable planetarium that brings the nighttime sky to your school. The sky is projected on the inside of an inflatable dome where students investigate the stars and constellations. **The portable planetarium requires 22x22 feet of floor space and an 11-foot ceiling.** The ideal class size for Starlab is 20, but it can hold a maximum of 30 K-2nd graders.

**Zoo in the Sky
Grades K-2**

45 minutes

This program introduces the concept of stars and constellations as familiar pictures in the sky. Students will discover some of the constellations visible in our nighttime sky during the current season, and learn how to locate the constellations themselves.

Science Discovery Center Knox County Science Instructional Goals

Every Science Discovery Center program has been specifically developed to reinforce the instructional goals of the Knox County School System. Following is the list of programs and the instructional goals they meet. For a full description of these goals, visit our website at www.etsdiscovery.org and click on the science goals link.

Planetarium Programs

Don't Duck, Look Up

Kindergarten goals 1, 2, 5 & 6 in Sky & Constellations unit

Friendly Stars

Kindergarten goals 1, 5 & 6 in Sky & Constellations unit

Sky Tonight

Kindergarten goals 1, 5 & 6 in Sky & Constellations unit

Classroom Programs

Bats Abound

Kindergarten goals 1, 2, 4 & 8 in Characteristics of Living Things unit

1st grade goals 1-5 in the Animals unit

2nd grade goals 3, 6 & 7 in Living Things unit

Forces & Motion

Kindergarten goals 2, 3, 5 & 7 in Pushes & Pulls unit

Our Planet & Moon

Kindergarten goals 1, 2 & 4 in Sky & Constellations unit

What is an Insect

Kindergarten goals 2, 4, 5 & 8 in Characteristics of Living Things unit

1st grade goals 2, 3 & 5 in Animals unit

2nd grade goals 2, 4 & 5 in Exploring Living Things unit

Wind, Water & The Four Seasons

Kindergarten goal 4 in Matter unit

1st grade goals 1 & 3-5 in Weather unit

2nd grade goal 6 in Exploring Solids, Liquids & Gases unit

Light & Color

1st grade goal 5 in Weather unit

2nd grade goals 1-4 & 6-9 in Exploring Light & Color unit

Brand New This Year!!

Classroom Health Outreach Programs

Dental Health Thru Nutrition

60 minutes

Grades K-2

Children are introduced to the anatomy of a tooth and how proper and improper food choices affect the health of their teeth. Meet Mr. Tuffy Tooth and sing along with him as he demonstrates how to properly brush your teeth. Play a Food Pyramid game to enhance knowledge of the food groups to maintain good dental health.

You Are What You Eat!

60 minutes

Grades K-2

By exploring the Food Pyramid children will learn what constitutes healthy food choices versus the unhealthy amount of sugar and fat contained in today's "popular" foods. Through a calorie-burning demo and the use of "fat belts" children will see the importance of healthy food choices and daily exercise to achieve optimum body weight and mobility.

Classroom Science Outreach Programs

Make It Move

Kindergarten goals 2, 3, 5 & 7 in Pushes & Pulls unit

Let's Make Sense of Our Bodies

Kindergarten goals 1-6 in Five Senses unit

What's in the Sky

Kindergarten goals 1, 2 & 4-6 in Sky & Constellations unit

Hide a Butterfly

Kindergarten goals 1, 2, 4, 5 & 8 in Characteristics of Living Things unit

Bats, Inside & Out

1st grade goals 1-5 in Animals unit

Opposites Attract

1st grade goals 1, 2, 4 & 5 in Magnets unit

Geology Rocks

1st grade goals 1-5 in Earth's Land and Water unit

Solids, Liquids & Gases

2nd grade goals 1-4 & 6-8 in Exploring Solids, Liquids & Gases unit

Dinosaurs, The Unfinished Puzzle

2nd grade goals 1-7 & 9 in Fossils unit

Ocean Voyage

2nd grade goals 1, 2, 4, 5 & 8 in Exploring Living Things unit

Starlab Outreach Programs**Zoo in the Sky**

Kindergarten goals 1, 2, 5 & 6 in Sky & Constellations unit